

Weekly SARS-CoV-2 Sequencing Summary for the State of Maine

September 10th, 2021

SUMMARY

Critical updates

- 6992 genomes sampled between March 10, 2020 and September 4, 2021 are included in the analysis
- 1109 B.1.1.7-like (alpha) Variant of Concern have been identified
- 4 B.1.351 (beta) Variant of Concern have been identified
- 1493 B.1.617.2/AY.* (delta) Variant of Concern have been identified
- 145 P.1-like (gamma) Variant of Concern have been identified

Notable Updates

- Pangolin lineage classifications continue to undergo substantial rearrangement of designations.
 - AY.1-AY.32 has been created to capture geographically distinct lineages of B.1.617.2. These lineages are considered under the parent lineage delta. All AY.* sublineages will be reported in aggregate until an individual lineage rises above 5% of cases sequenced in a single calendar month.
 - B.1.526 has been reconfigured with the majority of samples losing their pangolin designation. This is represented as a loss of B.1.526 in this report compared to earlier reports.
 - Q.1-Q.8 has been created to capture geographically distinct lineages of B.1.1.7. These lineages are considered under the parent lineage alpha. All Q.* sublineages will be reported in aggregate until a single lineage rises above 5% of cases sequenced in a single calendar month.

IMPORTANCE

- Variants of Concern have increased transmission
- Variants of Concern have increased severity of disease based on hospitalization and case fatality rates
- Variants of Concern have decreased susceptibility to therapeutic agents such as monoclonal antibodies
- Variants of Concern could evade natural or vaccine-induced immunity

CAVEATS and CONCERNS

- County information is missing in this analysis for ~45% of samples sequenced externally (e.g. CDC).
- Weekly biases exist due to uneven sampling across the state
- Need to reduce location bias by sequencing more samples from varying facilities and laboratories
- Turnaround times need to decrease to inform infection control practices
- Phylogenetic tree has no county metadata. Public release of county or aggregated-county metadata will aid regional analysis
- Phylogenetic tree has no PHI (an internal tree with PHI should be constructed)

REFERENCES

- <https://nextstrain.org/community/tewhey-lab/ncov-ME/latest>
<https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/variant-surveillance/variant-info.html>
<https://covariants.org/>
<https://outbreak.info/situation-reports>
<https://nextstrain.org/>
<https://github.com/tewhey-lab/ncov-ME>

Pangolin Lineage	WHO Label	CDC Category	Cumulative Count	June 2021	July 2021	Aug 2021	Sept 2021
B.1.1.7 / Q.*	Alpha	VOC	1109	27.6%	1.4%	0.6%	0.0%
B.1.351	Beta	VOC	4	0.0%	0.0%	0.0%	0.0%
P.1*	Gamma	VOC	145	4.5%	1.0%	0.9%	3.2%
B.1.617.2 / AY.*	Delta	VOC	1493	3.0%	89.9%	97.0%	96.8%
B.1.427 / B.1.429	Epsilon	VOI	146	0.0%	0.0%	0.0%	0.0%
P.2	Zeta	VOI	110	0.0%	0.0%	0.0%	0.0%
B.1.525	Eta	VOI	8	0.0%	0.0%	0.0%	0.0%
B.1.526	Iota	VOI	957	28.2%	2.1%	0.8%	0.0%
C.37.*	Lambda	VOI	3	0.0%	0.0%	0.0%	0.0%
B.1.621.*	Mu		72	12.9%	3.3%	0.3%	0.0%
Total VOI/VOC Sequenced			4047	254	474	923	31
Total Cases Sequenced			6992	333	485	927	31

Table 1: Proportion of cases sequenced classified as a variant of interest or concern by month.

Lineages with “*” include the parent lineage and all sublineages (e.g. P.1* include P.1, P.1.1, & P.1.2)

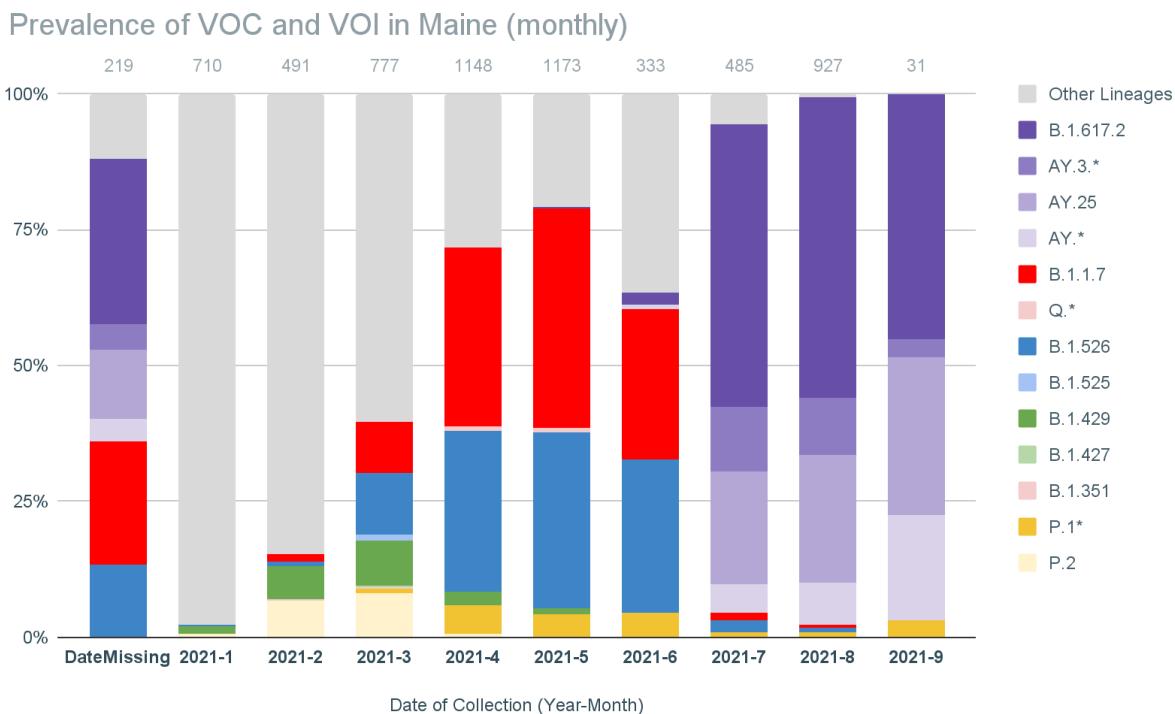


Figure 1: Proportion of samples typed as VOC and VOI by month. Samples represented as “DateMissing” include samples sequenced in the past 60 days without metadata.

Lineages with “*” include the parent lineage and all sublineages (e.g. P.1* include P.1, P.1.1, P.1.2 & P.1.10)
AY.* does not include A.3.* and A.25 which are provided separately.

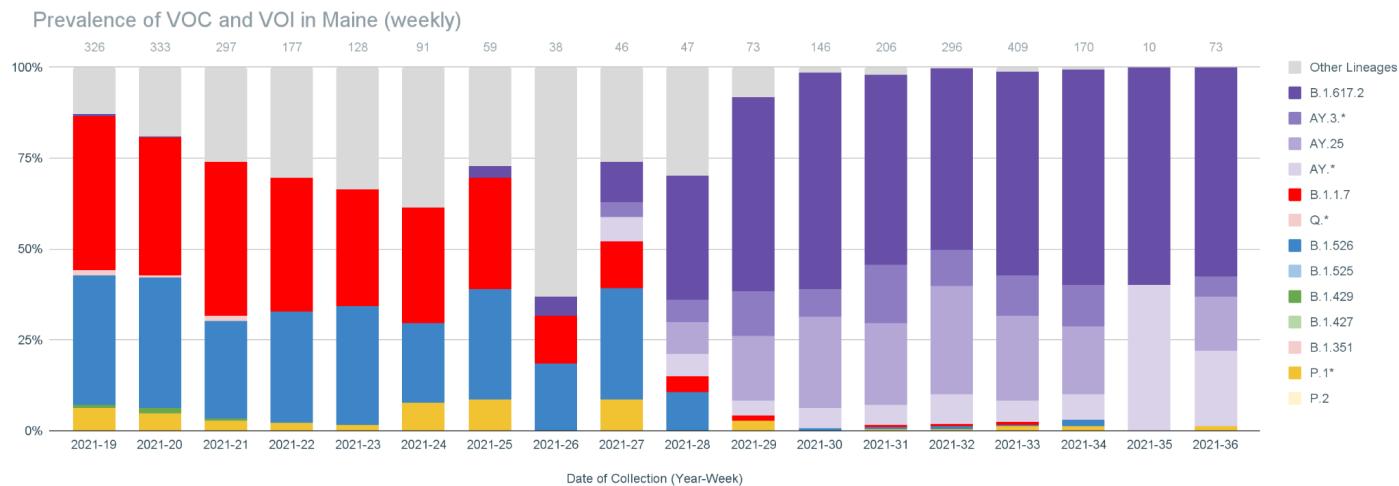


Figure 2: Proportion of samples typed as VOC and VOI by week.

Lineages with “*” include the parent lineage and all sublineages (e.g. P.1* include P.1, P.1.1, P.1.2 & P.1.10)

Mutation	Gene	Category	Cumulative Count	June 2021	July 2021	Aug 2021	Sept 2021
S:E484K	Spike	Substitution	601	24.0%	4.7%	1.1%	0.0%
S:L452R	Spike	Substitution	2123	23.1%	90.7%	93.9%	71.0%

Table 2: Proportion of cases sequenced with substitutions of therapeutic concern

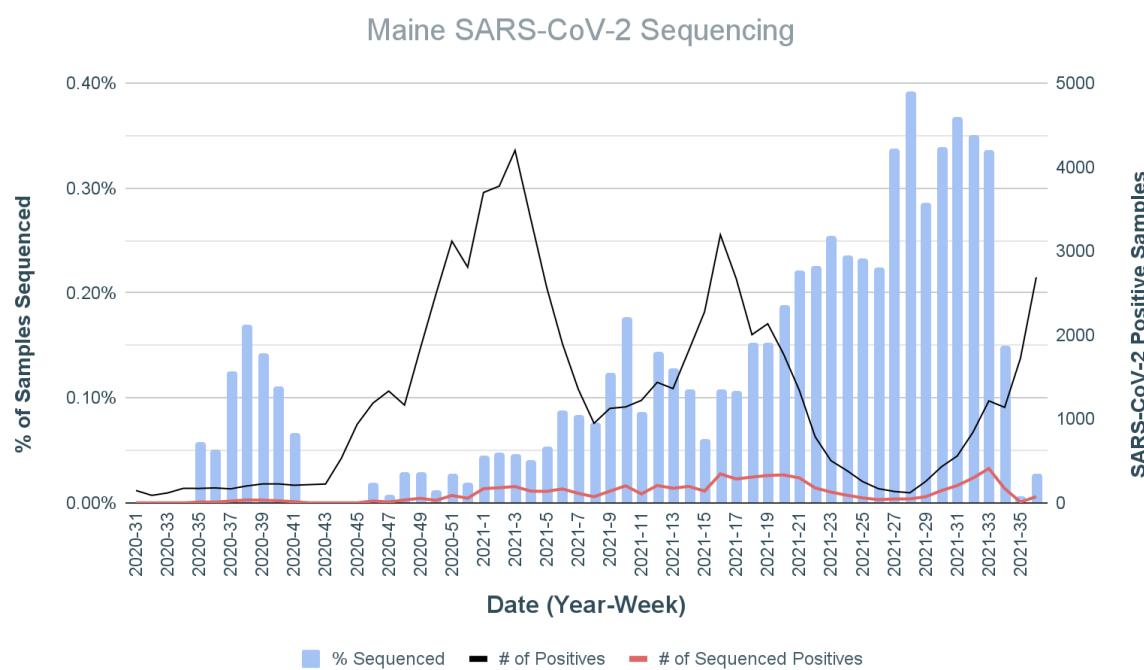


Figure 3: Proportion of COVID-19 positive samples sequenced.

Sample Collection Date	JAX	HETL	CDC	Other
Missing Date	240	0	0	0
Pre-Sept 2020	119	0	0	8
Sept 2020	116	0	0	0
Oct 2020	19	0	0	0
Nov 2020	98	0	0	0
Dec 2020	301	0	12	2
Jan 2021	602	0	88	20
Feb 2021	347	13	120	11
Mar 2021	526	16	216	19
Apr 2021	706	83	343	17
May 2021	806	59	299	10
June 2021	283	0	44	6
July 2021	447	0	36	2
Aug 2021	830	0	76	21
Sept 2021	31	0	0	0

Table 3: Total number of samples sequenced. Only Sequences passing quality metrics are included. CDC totals include samples from federal contracts (LabCorp, Helix, Broad) and 10 samples requested from HETL every 2 weeks via the NS3 surveillance program.

	Total	08/08/21 - 08/14/21	08/15/21 - 08/21/21	08/22/21 - 08/28/21	08/29/21 - 09/04/21
Total number of cases sequenced	6992	409	170	10	73
Total positive tests by molecular testing	61169	N/A	N/A	N/A	N/A
Total positive tests	89748	1215	1138	1722	2688
Percent of positives sequenced (molecular)	11.43%	-	-	-	-
Percent of positives sequenced (total)	7.79%	33.66%	14.94%	0.58%	2.72%

Table 4: Total proportion of positive tests sequenced.

Supplemental Table 1: VOC/VOI proportion and total counts by county. Sequences obtained through GISAID (CDC, HETL, Other) are not included in the by-county breakdown.

AY.* does not include A.3.* and A.25 which are provided separately.

Variant	County	Cumulative % (total count)	June 2021	July 2021	August 2021	Sept 2021
P.1*	ANDROSCOGGIN	1.7% (13)	4.5% (1)	0% (0)	0% (0)	0% (0)
P.1*	AROOSTOOK	9.1% (23)	0% (0)	5.0% (1)	8.3% (4)	50.0% (1)
P.1*	CUMBERLAND	2.1% (21)	8.0% (2)	1.5% (1)	1.2% (1)	0% (0)
P.1*	FRANKLIN	0.8% (1)	0% (0)	0% (0)	0% (0)	0% (0)
P.1*	HANCOCK	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
P.1*	KENNEBEC	1.7% (7)	0% (0)	3.3% (1)	0% (0)	0% (0)
P.1*	KNOX	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
P.1*	LINCOLN	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
P.1*	OXFORD	1.5% (4)	0% (0)	0% (0)	0% (0)	0% (0)
P.1*	PENOBCOT	2.7% (22)	0% (0)	4.5% (2)	0% (0)	0% (0)
P.1*	SAGADAHOC	1.5% (1)	0% (0)	0% (0)	0% (0)	0% (0)
P.1*	SOMERSET/PISCATAQUIS	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
P.1*	WALDO	1.4% (3)	33.3% (2)	0% (0)	1.0% (1)	0% (0)
P.1*	WASHINGTON	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
P.1*	YORK	1.8% (13)	4.7% (2)	0% (0)	0.8% (1)	0% (0)
P.1*	Total (w/ county information)	2.0% (108)	2.7% (7)	1.2% (5)	0.9% (7)	3.4% (1)
P.1*	Total	2.1% (145)	4.5% (15)	1.0% (5)	0.9% (8)	3.2% (1)
B.1.351	ANDROSCOGGIN	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	AROOSTOOK	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	CUMBERLAND	0.1% (1)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	FRANKLIN	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	HANCOCK	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	KENNEBEC	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	KNOX	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	LINCOLN	1.6% (2)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	OXFORD	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	PENOBCOT	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	SAGADAHOC	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	SOMERSET/PISCATAQUIS	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	WALDO	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	WASHINGTON	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	YORK	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	Total (w/ county information)	0.1% (3)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.351	Total	0.1% (4)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.1.7	ANDROSCOGGIN	16.8% (130)	22.7% (5)	0% (0)	0% (0)	0% (0)
B.1.1.7	AROOSTOOK	9.1% (23)	16.7% (2)	5.0% (1)	2.1% (1)	0% (0)
B.1.1.7	CUMBERLAND	15.5% (155)	20.0% (5)	1.5% (1)	0% (0)	0% (0)
B.1.1.7	FRANKLIN	15.6% (19)	55.6% (5)	9.1% (1)	0% (0)	0% (0)
B.1.1.7	HANCOCK	12.1% (17)	50.0% (1)	0% (0)	0% (0)	0% (0)
B.1.1.7	KENNEBEC	12.0% (51)	41.7% (10)	0% (0)	0% (0)	0% (0)
B.1.1.7	KNOX	9.6% (12)	60.0% (3)	0% (0)	0% (0)	0% (0)
B.1.1.7	LINCOLN	30.6% (38)	33.3% (1)	0% (0)	0% (0)	0% (0)
B.1.1.7	OXFORD	17.6% (46)	53.8% (7)	11.1% (2)	0% (0)	0% (0)
B.1.1.7	PENOBCOT	14.4% (116)	30.0% (18)	0% (0)	1.2% (2)	0% (0)
B.1.1.7	SAGADAHOC	21.2% (14)	50.0% (1)	0% (0)	0% (0)	0% (0)
B.1.1.7	SOMERSET/PISCATAQUIS	17.5% (63)	11.5% (3)	5.6% (1)	1.6% (1)	0% (0)
B.1.1.7	WALDO	5.5% (12)	33.3% (2)	0% (0)	0% (0)	0% (0)
B.1.1.7	WASHINGTON	8.4% (8)	20.0% (2)	0% (0)	5.3% (1)	0% (0)
B.1.1.7	YORK	13.8% (99)	25.6% (11)	0.9% (1)	0.8% (1)	0% (0)
B.1.1.7	Total (w/ county information)	14.6% (803)	29.0% (76)	1.6% (7)	0.7% (6)	0% (0)
B.1.1.7	Total	15.6% (1090)	27.6% (92)	1.4% (7)	0.6% (6)	0% (0)

Supplemental Table 1 continued:

Variant	County	Cumulative % (total count)	June 2021	July 2021	August 2021	Sept 2021
Q.*	ANDROSCOGGIN	1.2% (9)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	AROOSTOOK	0.4% (1)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	CUMBERLAND	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	FRANKLIN	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	HANCOCK	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	KENNEBEC	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	KNOX	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	LINCOLN	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	OXFORD	0.4% (1)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	PENOBCOT	0.4% (3)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	SAGADAHOC	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	SOMERSET/PISCATAQUIS	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	WALDO	0.9% (2)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	WASHINGTON	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	YORK	0.3% (2)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	Total (w/ county information)	0.3% (18)	0% (0)	0% (0)	0% (0)	0% (0)
Q.*	Total	0.3% (19)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	ANDROSCOGGIN	1.3% (10)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	AROOSTOOK	4.7% (12)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	CUMBERLAND	3.9% (39)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	FRANKLIN	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	HANCOCK	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	KENNEBEC	1.7% (7)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	KNOX	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	LINCOLN	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	OXFORD	1.5% (4)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	PENOBCOT	2.5% (20)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	SAGADAHOC	1.5% (1)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	SOMERSET/PISCATAQUIS	0.3% (1)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	WALDO	0.5% (1)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	WASHINGTON	1.1% (1)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	YORK	1.8% (13)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	Total (w/ county information)	2.0% (109)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.429	Total	2.0% (142)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	ANDROSCOGGIN	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	AROOSTOOK	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	CUMBERLAND	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	FRANKLIN	2.5% (3)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	HANCOCK	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	KENNEBEC	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	KNOX	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	LINCOLN	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	OXFORD	1.5% (4)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	PENOBCOT	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	SAGADAHOC	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	SOMERSET/PISCATAQUIS	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	WALDO	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	WASHINGTON	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	YORK	0.1% (1)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	Total (w/ county information)	0.1% (8)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.525	Total	0.1% (8)	0% (0)	0% (0)	0% (0)	0% (0)

Supplemental Table 1 continued:

Variant	County	Cumulative % (total count)	June 2021	July 2021	August 2021	Sept 2021
B.1.526	ANDROSCOGGIN	19.6% (152)	27.3% (6)	0% (0)	2.9% (1)	0% (0)
B.1.526	AROOSTOOK	2.8% (7)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.526	CUMBERLAND	11.0% (110)	48.0% (12)	1.5% (1)	2.4% (2)	0% (0)
B.1.526	FRANKLIN	9.8% (12)	33.3% (3)	0% (0)	0% (0)	0% (0)
B.1.526	HANCOCK	12.1% (17)	50.0% (1)	9.1% (1)	0% (0)	0% (0)
B.1.526	KENNEBEC	20.8% (88)	37.5% (9)	6.7% (2)	3.8% (1)	0% (0)
B.1.526	KNOX	17.6% (22)	40.0% (2)	0% (0)	0% (0)	0% (0)
B.1.526	LINCOLN	3.2% (4)	0% (0)	0% (0)	0% (0)	0% (0)
B.1.526	OXFORD	13.0% (34)	15.4% (2)	22.2% (4)	0% (0)	0% (0)
B.1.526	PENOBCOT	10.0% (81)	20.0% (12)	0% (0)	1.2% (2)	0% (0)
B.1.526	SAGADAHOC	27.3% (18)	50.0% (1)	0% (0)	0% (0)	0% (0)
B.1.526	SOMERSET/PISCATAQUIS	21.1% (76)	61.5% (16)	11.1% (2)	1.6% (1)	0% (0)
B.1.526	WALDO	7.7% (17)	33.3% (2)	0% (0)	0% (0)	0% (0)
B.1.526	WASHINGTON	22.1% (21)	70.0% (7)	0% (0)	0% (0)	0% (0)
B.1.526	YORK	8.4% (60)	4.7% (2)	0% (0)	0% (0)	0% (0)
B.1.526	Total (w/ county information)	13.1% (719)	28.6% (75)	2.3% (10)	0.9% (7)	0% (0)
B.1.526	Total	13.7% (957)	28.2% (94)	2.1% (10)	0.8% (7)	0% (0)
B.1.617.2	ANDROSCOGGIN	1.9% (15)	0% (0)	26.3% (5)	26.5% (9)	33.3% (1)
B.1.617.2	AROOSTOOK	19.8% (50)	0% (0)	70.0% (14)	72.9% (35)	50.0% (1)
B.1.617.2	CUMBERLAND	8.3% (83)	12.0% (3)	51.5% (34)	54.9% (45)	100.0% (1)
B.1.617.2	FRANKLIN	9.0% (11)	0% (0)	54.5% (6)	33.3% (5)	0% (0)
B.1.617.2	HANCOCK	12.9% (18)	0% (0)	27.3% (3)	57.7% (15)	0% (0)
B.1.617.2	KENNEBEC	7.1% (30)	0% (0)	36.7% (11)	61.5% (16)	50.0% (3)
B.1.617.2	KNOX	26.4% (33)	0% (0)	61.5% (16)	48.6% (17)	0% (0)
B.1.617.2	LINCOLN	28.2% (35)	0% (0)	66.7% (8)	57.8% (26)	100.0% (1)
B.1.617.2	OXFORD	7.3% (19)	0% (0)	50.0% (9)	50.0% (8)	0% (0)
B.1.617.2	PENOBCOT	19.2% (155)	3.3% (2)	68.2% (30)	70.5% (122)	33.3% (1)
B.1.617.2	SAGADAHOC	9.1% (6)	0% (0)	0% (0)	85.7% (6)	0% (0)
B.1.617.2	SOMERSET/PISCATAQUIS	16.9% (61)	0% (0)	83.3% (15)	67.7% (42)	66.7% (4)
B.1.617.2	WALDO	17.7% (39)	0% (0)	34.8% (16)	22.7% (22)	100.0% (1)
B.1.617.2	WASHINGTON	14.7% (14)	0% (0)	66.7% (2)	63.2% (12)	0% (0)
B.1.617.2	YORK	15.9% (114)	4.7% (2)	47.7% (52)	47.9% (57)	50.0% (1)
B.1.617.2	Total (w/ county information)	12.4% (683)	2.7% (7)	51.0% (221)	54.4% (437)	48.3% (14)
B.1.617.2	Total	12.2% (856)	2.1% (7)	52.0% (252)	55.2% (512)	45.2% (14)
AY.3.*	ANDROSCOGGIN	2.7% (21)	0% (0)	10.5% (2)	55.9% (19)	0% (0)
AY.3.*	AROOSTOOK	0.4% (1)	0% (0)	0% (0)	2.1% (1)	0% (0)
AY.3.*	CUMBERLAND	1.9% (19)	0% (0)	15.2% (10)	11.0% (9)	0% (0)
AY.3.*	FRANKLIN	1.6% (2)	0% (0)	0% (0)	13.3% (2)	0% (0)
AY.3.*	HANCOCK	1.4% (2)	0% (0)	9.1% (1)	3.8% (1)	0% (0)
AY.3.*	KENNEBEC	3.5% (15)	0% (0)	36.7% (11)	15.4% (4)	0% (0)
AY.3.*	KNOX	7.2% (9)	0% (0)	23.1% (6)	8.6% (3)	0% (0)
AY.3.*	LINCOLN	1.6% (2)	0% (0)	8.3% (1)	2.2% (1)	0% (0)
AY.3.*	OXFORD	1.5% (4)	0% (0)	11.1% (2)	12.5% (2)	0% (0)
AY.3.*	PENOBCOT	1.7% (14)	0% (0)	4.5% (2)	6.9% (12)	0% (0)
AY.3.*	SAGADAHOC	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
AY.3.*	SOMERSET/PISCATAQUIS	0.6% (2)	0% (0)	0% (0)	3.2% (2)	0% (0)
AY.3.*	WALDO	3.2% (7)	0% (0)	8.7% (4)	3.1% (3)	0% (0)
AY.3.*	WASHINGTON	2.1% (2)	0% (0)	0% (0)	5.3% (1)	25.0% (1)
AY.3.*	YORK	5.7% (41)	0% (0)	14.7% (16)	21.0% (25)	0% (0)
AY.3.*	Total (w/ county information)	2.6% (141)	0% (0)	12.7% (55)	10.6% (85)	3.4% (1)
AY.3.*	Total	2.4% (166)	0% (0)	12.0% (58)	10.5% (97)	3.2% (1)

Supplemental Table 1 continued:

Variant	County	Cumulative % (total count)	June 2021	July 2021	August 2021	Sept 2021
AY.25	ANDROSCOGGIN	1.3% (10)	0% (0)	21.1% (4)	11.8% (4)	66.7% (2)
AY.25	AROOSTOOK	2.8% (7)	0% (0)	10.0% (2)	10.4% (5)	0% (0)
AY.25	CUMBERLAND	3.1% (31)	0% (0)	13.6% (9)	26.8% (22)	0% (0)
AY.25	FRANKLIN	3.3% (4)	0% (0)	0% (0)	26.7% (4)	0% (0)
AY.25	HANCOCK	7.1% (10)	0% (0)	18.2% (2)	30.8% (8)	0% (0)
AY.25	KENNEBEC	2.1% (9)	0% (0)	13.3% (4)	15.4% (4)	16.7% (1)
AY.25	KNOX	9.6% (12)	0% (0)	3.8% (1)	31.4% (11)	0% (0)
AY.25	LINCOLN	10.5% (13)	0% (0)	16.7% (2)	24.4% (11)	0% (0)
AY.25	OXFORD	1.1% (3)	0% (0)	5.6% (1)	12.5% (2)	0% (0)
AY.25	PENOBCOT	3.1% (25)	0% (0)	13.6% (6)	11.0% (19)	0% (0)
AY.25	SAGADAHOC	1.5% (1)	0% (0)	0% (0)	14.3% (1)	0% (0)
AY.25	SOMERSET/PISCATAQUIS	1.9% (7)	0% (0)	0% (0)	9.7% (6)	16.7% (1)
AY.25	WALDO	42.7% (94)	0% (0)	54.3% (25)	71.1% (69)	0% (0)
AY.25	WASHINGTON	6.3% (6)	0% (0)	0% (0)	15.8% (3)	75.0% (3)
AY.25	YORK	8.4% (60)	0% (0)	27.5% (30)	24.4% (29)	50.0% (1)
AY.25	Total (w/ county information)	5.3% (292)	0% (0)	19.9% (86)	24.6% (198)	27.6% (8)
AY.25	Total	5.1% (354)	0% (0)	20.6% (100)	23.4% (217)	29.0% (9)
AY.*	ANDROSCOGGIN	0.6% (5)	9.1% (2)	10.5% (2)	2.9% (1)	0% (0)
AY.*	AROOSTOOK	1.6% (4)	0% (0)	10.0% (2)	4.2% (2)	0% (0)
AY.*	CUMBERLAND	0.6% (6)	4.0% (1)	4.5% (3)	2.4% (2)	0% (0)
AY.*	FRANKLIN	6.6% (8)	0% (0)	36.4% (4)	26.7% (4)	0% (0)
AY.*	HANCOCK	4.3% (6)	0% (0)	36.4% (4)	7.7% (2)	0% (0)
AY.*	KENNEBEC	0.7% (3)	0% (0)	0% (0)	3.8% (1)	33.3% (2)
AY.*	KNOX	4.8% (6)	0% (0)	7.7% (2)	11.4% (4)	0% (0)
AY.*	LINCOLN	6.5% (8)	0% (0)	8.3% (1)	15.6% (7)	0% (0)
AY.*	OXFORD	1.5% (4)	0% (0)	0% (0)	25.0% (4)	0% (0)
AY.*	PENOBCOT	2.1% (17)	0% (0)	0% (0)	8.7% (15)	66.7% (2)
AY.*	SAGADAHOC	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
AY.*	SOMERSET/PISCATAQUIS	3.0% (11)	0% (0)	0% (0)	16.1% (10)	16.7% (1)
AY.*	WALDO	0.5% (1)	0% (0)	2.2% (1)	0% (0)	0% (0)
AY.*	WASHINGTON	2.1% (2)	0% (0)	33.3% (1)	5.3% (1)	0% (0)
AY.*	YORK	1.5% (11)	0% (0)	5.5% (6)	4.2% (5)	0% (0)
AY.*	Total (w/ county information)	1.7% (92)	1.1% (3)	6.0% (26)	7.2% (58)	17.2% (5)
AY.*	Total	1.7% (117)	0.9% (3)	5.4% (26)	7.9% (73)	19.4% (6)
P.2	ANDROSCOGGIN	0.5% (4)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	AROOSTOOK	2.0% (5)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	CUMBERLAND	0.5% (5)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	FRANKLIN	0.8% (1)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	HANCOCK	12.1% (17)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	KENNEBEC	0.5% (2)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	KNOX	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	LINCOLN	3.2% (4)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	OXFORD	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	PENOBCOT	2.1% (17)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	SAGADAHOC	3.0% (2)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	SOMERSET/PISCATAQUIS	7.5% (27)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	WALDO	1.4% (3)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	WASHINGTON	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	YORK	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	Total (w/ county information)	1.6% (87)	0% (0)	0% (0)	0% (0)	0% (0)
P.2	Total	1.6% (110)	0% (0)	0% (0)	0% (0)	0% (0)

Supplemental Table 1 continued:

Variant	County	Cumulative % (total count)	June 2021	July 2021	August 2021	Sept 2021
	ANDROSCOGGIN	47.7% (369)	63.6% (14)	68.4% (13)	100.0% (34)	100.0% (3)
	AROOSTOOK	52.6% (133)	16.7% (2)	100.0% (20)	100.0% (48)	100.0% (2)
	CUMBERLAND	46.9% (470)	92.0% (23)	89.4% (59)	98.8% (81)	100.0% (1)
	FRANKLIN	50.0% (61)	88.9% (8)	100.0% (11)	100.0% (15)	0% (0)
	HANCOCK	62.1% (87)	100.0% (2)	100.0% (11)	100.0% (26)	0% (0)
	KENNEBEC	50.0% (212)	79.2% (19)	96.7% (29)	100.0% (26)	100.0% (6)
	KNOX	75.2% (94)	100.0% (5)	96.2% (25)	100.0% (35)	0% (0)
	LINCOLN	85.5% (106)	33.3% (1)	100.0% (12)	100.0% (45)	100.0% (1)
	OXFORD	47.1% (123)	69.2% (9)	100.0% (18)	100.0% (16)	0% (0)
	PENOBCOT	58.3% (470)	53.3% (32)	90.9% (40)	99.4% (172)	100.0% (3)
	SAGADAHOC	65.2% (43)	100.0% (2)	0% (0)	100.0% (7)	0% (0)
	SOMERSET/PISCATAQUIS	68.7% (248)	73.1% (19)	100.0% (18)	100.0% (62)	100.0% (6)
	WALDO	81.4% (179)	100.0% (6)	100.0% (46)	97.9% (95)	100.0% (1)
	WASHINGTON	56.8% (54)	90.0% (9)	100.0% (3)	94.7% (18)	100.0% (4)
	YORK	57.9% (414)	39.5% (17)	96.3% (105)	99.2% (118)	100.0% (2)
Total VOI/VOC Sequenced	Total (w/ county information)	55.8% (3063)	64.1% (168)	94.7% (410)	99.3% (798)	100.0% (29)
Total VOI/VOC Sequenced	Total	56.8% (3968)	63.4% (211)	94.4% (458)	99.2% (920)	100.0% (31)
	ANDROSCOGGIN	774	22	19	34	3
	AROOSTOOK	253	12	20	48	2
	CUMBERLAND	1002	25	66	82	1
	FRANKLIN	122	9	11	15	0
	HANCOCK	140	2	11	26	0
	KENNEBEC	424	24	30	26	6
	KNOX	125	5	26	35	0
	LINCOLN	124	3	12	45	1
	OXFORD	261	13	18	16	0
	PENOBCOT	806	60	44	173	3
	SAGADAHOC	66	2	0	7	0
	SOMERSET/PISCATAQUIS	361	26	18	62	6
	WALDO	220	6	46	97	1
	WASHINGTON	95	10	3	19	4
	YORK	715	43	109	119	2
Total Cases Sequenced	Total (w/ county information)	5488	262	433	804	29
Total Cases Sequenced	Total	6992	333	485	927	31